

WHAT IS CLAIMED IS

1. A correction ink for micro defect of a color pattern comprising a coloring agent, monomer having reactivity functional group, polymer and a solvent, wherein an amount of the solvent is from 25 % by weight to 70 % by weight of the whole ink, and a viscosity of the ink is from 40 to 300 mPa·sec.

2. A correction ink for micro defect of a color pattern according to claim 1, wherein τ value is 0.3 to 1.3 when γ value is 10 and τ value is 4.0 to 10.0 when γ value is 100 in the following formula (1):

$$\tau = K \gamma^L \cdots \text{formula (1)}$$

wherein $0.081 \leq K \leq 0.111$, $0.881 \leq L \leq 0.954$

3. A correction ink for micro defect of a color pattern according to claim 1, wherein τ value is 0.3 to 10 when γ value is 10 to 100 having slope of 0.075 to 0.15 and degree of 0.8 to 1.1 in the following formula (1):

$$\tau = K \gamma^L \cdots \text{formula (1)}$$

wherein $0.081 \leq K \leq 0.111$, $0.881 \leq L \leq 0.954$

4. A correction ink for micro defect of a color pattern according to claim 1, wherein static surface tension of the ink at 25 °C is 20 mN/m to 45 mN/m.

5. A correction ink for micro defect of a color pattern according

to claim 1, wherein the monomer having the reactivity functional group has two or more reactivity functional groups in one molecular.

6. A correction ink for micro defect of a color pattern according to claim 1, further comprising a polymerization inhibitor.

7. A correction ink for micro defect of a color pattern according to claim 1, wherein said polymer is diallylphthalate prepolymer.

8. A correction ink for micro defect of a color pattern according to claim 1, wherein the ink is a correcting black ink containing a red coloring agent, a yellow coloring agent and a blue coloring agent as said coloring agents.

9. A correcting black ink for micro defect of a color pattern according to claim 8, wherein an optical density is 1.0 or more in the measuring wave range of 400 nm to 760 nm when a layer thickness at curing is less than 1.9 μm .

10. A color filter, wherein a micro defect in a color pattern is corrected by filling with cured product of a correction ink for micro defect of a color pattern comprising a coloring agent, monomer having reactivity functional group, polymer and a solvent, wherein an amount of the solvent is from 25 % by weight to 70 % by weight of the whole ink, and a viscosity of the ink is from 40 to 300 mPa \cdot sec.

11. A color filter according to claim 10, wherein a defect in a

black matrix pattern is corrected by filling with cured product of the correcting black ink containing a red coloring agent, a yellow coloring agent and a blue coloring agent as coloring agents.

12. A color filter according to claim 10, wherein difference in level between a corrected part by the ink and surroundings thereof is $-3\text{ }\mu\text{m}$ to $+5\text{ }\mu\text{m}$.

13. A method for correcting a micro defect in a color pattern comprising steps of:

applying, onto a small defect portion in a colored pattern, a correction ink for micro defect of a color pattern comprising a coloring agent, monomer having reactivity functional group, polymer and a solvent, wherein an amount of the solvent is from 25 % by weight to 70 % by weight of the whole ink and a viscosity of the ink is from 40 to 300 mPa·sec.; and

radiating light thereon.

14. A process for producing a correction ink for a micro defect in a color pattern comprising a coloring agent, monomer having reactivity functional group, polymer and a solvent, wherein an amount of the solvent is from 25 % by weight to 70 % by weight of the whole ink, comprising steps of:

preparing a coloring agent dispersion by dispersing the coloring agent in the solvent;

preparing varnish by mixing the monomer having reactivity functional group with the polymer; and

mixing the prepared coloring agent dispersion with the varnish.

15. A process for producing a correction ink for a micro defect in a color pattern according to claim 14, wherein the ink has a viscosity from 40 to 300 mPa·sec.

16. A process for producing a correction ink for a micro defect in a color pattern according to claim 14, wherein a polymerization inhibitor is added at the varnish preparing step.

17. A process for producing a correction ink for a micro defect in a color pattern according to claim 14, wherein the polymer is heated and melted at the varnish preparing step.

18. A process for producing a correction ink for a micro defect in a color pattern according to claim 14, wherein the monomer having reactivity functional group at the varnish preparing step is a photo-curable resin.

19. A process for producing a correction ink for a micro defect in a color pattern according to claim 14, wherein an amount of the solvent is from 25 % by weight to 55 % by weight of the whole ink.